

IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

What is claimed is:

1. (Original) A method for realizing signalling agent based on a media gateway control protocol, comprising the following steps of:

providing an agent equipment between media gateways and a media gateway controller that locate in different networks, the agent equipment providing signalling agent and network address translation between different networks;

requesting for registering to the media gateway controller from a media gateway;

for a MGCP/MEGACO signalling that is not related to media between the media gateway controller and the media gateway, directly replacing a transaction number by the agent equipment and then forwarding; for a MGCP/MEGACO signalling that is related to media, processing a media identifier correspondingly by the agent equipment and then forwarding.

2. (Original) The method for realizing signalling agent based on a media gateway control protocol of claim 1, wherein each of all media gateways under control of same media gateway controller has different domain name, each endpoint identifier includes domain name information of a media gateway, and the media gateway controller distinguishes media gateways according to their domain names in the endpoint identifiers.

3. (Currently Amended) The method for realizing signalling agent based on a media gateway control protocol of claim 1 ~~or~~ 2, wherein the step of requesting for registering to the media gateway controller from a media gateway further comprises:

sending a request message for registering to the media gateway controller from the media gateway, and recording message identifier of the media gateway received by the agent equipment to generate a piece of information about the media gateway;

assigning by the agent equipment a new transaction number to the request message for registering to replace original transaction number in the request message for registering,

recording the media gateway sending the request, and then forwarding the request message for registering to the media gateway controller;

registering the media gateway successfully, and then sending a response message for registering to the media gateway from the media gateway controller;

determining the media gateway by the agent equipment according to the new transaction number in the response message for registering, replacing the new transaction number with the original transaction number, and then forwarding the response message for registering to corresponding media gateway.

4. (Currently Amended) The method for realizing signalling agent based on a media gateway control protocol of claim 1-~~or~~2, wherein the step of replacing a transaction number by the agent equipment further comprises:

for each of request messages sent from the media gateway to the media gateway controller, assigning a new transaction number for a request message by the agent equipment, and recording the media gateway sending the request message;

after receiving on the agent equipment a response message for the request message sent by the media gateway controller, finding a corresponding media gateway according to a new transaction number assigned, replacing the new transaction number in the response message with original transaction number, and then forwarding the response message to the corresponding media gateway;

for each of request messages sent from the media gateway controller to a media gateway, sending the request message to corresponding media gateway by the agent equipment according to domain name in endpoint identifier.

5. (Currently Amended) The method for realizing signalling agent based on a media gateway control protocol of claim 1-~~or~~2, wherein the step of processing a MGCP/MEGACO signalling that is related to media by the agent equipment further comprises:

creating or modifying a corresponding media forwarding port and a forwarding table on

the agent equipment after receiving a signalling for establishing or modifying a connection sent to a media gateway from the media gateway controller,

replacing relevant information on media in the signalling with information on corresponding network address of the media forwarding port on the agent equipment, and then forwarding the signalling to the media gateway;

if the signalling is a signalling for creating a connection, further recording on the agent equipment an endpoint identifier of the connection,

modifying the forwarding table of a corresponding media forwarding port on the agent equipment according to a response signalling when the media gateway sends the media gateway controller the response signalling related to media;

replacing media information in the response signalling with information on network address of corresponding media port on the agent equipment, and then sending to the media gateway controller;

sending a signalling for releasing the connection to the media gateway from the media gateway controller after calling finishes, releasing the corresponding media forwarding port on the agent equipment according to the endpoint identifier, and then forwarding the signalling to the media gateway.

6. (New) The method for realizing signalling agent based on a media gateway control protocol of claim 2, wherein the step of requesting for registering to the media gateway controller from a media gateway further comprises:

sending a request message for registering to the media gateway controller from the media gateway, and recording message identifier of the media gateway received by the agent equipment to generate a piece of information about the media gateway;

assigning by the agent equipment a new transaction number to the request message for registering to replace original transaction number in the request message for registering,

recording the media gateway sending the request, and then forwarding the request message for registering to the media gateway controller;

registering the media gateway successfully, and then sending a response message for

registering to the media gateway from the media gateway controller;

determining the media gateway by the agent equipment according to the new transaction number in the response message for registering, replacing the new transaction number with the original transaction number, and then forwarding the response message for registering to corresponding media gateway.

7. (New) The method for realizing signalling agent based on a media gateway control protocol of claim 2, wherein the step of replacing a transaction number by the agent equipment further comprises:

for each of request messages sent from the media gateway to the media gateway controller, assigning a new transaction number for a request message by the agent equipment, and recording the media gateway sending the request message;

after receiving on the agent equipment a response message for the request message sent by the media gateway controller, finding a corresponding media gateway according to a new transaction number assigned, replacing the new transaction number in the response message with original transaction number, and then forwarding the response message to the corresponding media gateway;

for each of request messages sent from the media gateway controller to a media gateway, sending the request message to corresponding media gateway by the agent equipment according to domain name in endpoint identifier.

8. (New) The method for realizing signalling agent based on a media gateway control protocol of claim 2, wherein the step of processing a MGCP/MEGACO signalling that is related to media by the agent equipment further comprises:

creating or modifying a corresponding media forwarding port and a forwarding table on the agent equipment after receiving a signalling for establishing or modifying a connection sent to a media gateway from the media gateway controller,

replacing relevant information on media in the signalling with information on corresponding network address of the media forwarding port on the agent equipment, and then forwarding the signalling to the media gateway;

if the signalling is a signalling for creating a connection, further recording on the agent equipment an endpoint identifier of the connection,

modifying the forwarding table of a corresponding media forwarding port on the agent equipment according to a response signalling when the media gateway sends the media gateway controller the response signalling related to media;

replacing media information in the response signalling with information on network address of corresponding media port on the agent equipment, and then sending to the media gateway controller;

sending a signalling for releasing the connection to the media gateway from the media gateway controller after calling finishes, releasing the corresponding media forwarding port on the agent equipment according to the endpoint identifier, and then forwarding the signalling to the media gateway.